WHAT IS CLAIMED IS:

1. An image processing method of dividing an image to be processed into one or more square areas, dividing each square area into triangular areas, and coding the divided triangular area, the image processing method comprising:

inputting the image to be processed and storing the image;

dividing the input image into one or more square areas;

recurrently dividing each divided square area into triangular areas;

coding the divided triangular areas; and

outputting the generated coded data.

2. The image processing method according to Claim 1, the number of pixels contained in one side of the square area generated in the dividing the input image being 2 raised to the N-th power + 1 (where N is a natural number).

3. The image processing method according to Claim 1, the recurrently dividing including storing the type of the shape of a triangular area, storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, obtaining the pixel information of the hypotenuse midpoint of the triangular area, updating the type of the shape of the triangular area, and updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

4. An image processing method of recurrently dividing each square area of an image which is divided into one or more square areas into triangular areas and decoding the coded data obtained by coding the divided triangular areas, the image processing method comprising:

inputting the coded image data;

analyzing the input coded data;

recurrently combining triangular areas on the basis of the analyzed coded data;

combining a square area on the basis of the combined triangular areas; and

reconstructing the image data from the combined square area and outputting the image data.

5. The image processing method according to Claim 4, the number of pixels contained in one side of the square area generated in the combining a square-area being 2 raised to the N-th power + 1 (where N is a natural number).

6. The image processing method according to Claim 4, the recurrently combining including storing the type of the shape of a triangular area, storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, obtaining the pixel information

of the hypotenuse midpoint of the triangular area, updating the type of the shape of the triangular area, and updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

7. An image processing method of transforming an image to be processed into one square area, dividing the square area into triangular areas, and coding the divided triangular areas, the image processing method comprising:

inputting and storing an image;

transforming the input image into one square area;

recurrently dividing the square-formed area into triangular areas;

coding the divided triangular areas; and

outputting the generated coded data.

8. The image processing method according to Claim 7, the number of pixels contained in one side of the square area generated in the transforming being 2 raised to the N-th power + 1 (where N is a natural number).

9. The image processing method according to Claim 7, the recurrently dividing including storing the type of the shape of a triangular area, storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, obtaining the pixel information of the hypotenuse midpoint of the triangular area, updating the type of the shape of the triangular area, and updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

10. An image processing method of recurrently dividing an image which is transformed into one square area into triangular areas and decoding the coded data obtained by coding the divided triangular areas, the image processing method comprising:

inputting coded data;

analyzing the input coded data;

recurrently combining triangular areas on the basis of the analyzed coded data;

combining a square area on the basis of the combined triangular areas; and

transforming the combined square area into the original image data area.

11. The image processing method according to Claim 10, the number of pixels contained in one side of the square area generated in the combining a square-area being 2 raised to the N-th power + 1 (where N is a natural number).

12. The image processing method according to Claim 10, the recurrently combining including storing the type of the shape of a triangular area, storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, obtaining the

pixel information of the hypotenuse midpoint of the triangular area, updating the type of the shape of the triangular area, and updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

13. An image processing device to divide an image to be processed into one or more square areas, to divide each square area into triangular areas, and to code the divided triangular areas, the image processing device comprising:

an image input device to input an image to be processed and to store the image;

a square-area dividing device to divide the input image into one or more square areas;

a recurrent triangular-area dividing device to recurrently divide each divided square area into triangular areas;

a coded data generation device to code the divided triangular areas; and

a coded data output device to output the generated coded data.

14. The image processing device according to Claim 13, the number of pixels contained in one side of the square area generated by the square-area dividing device being 2 raised to the N-th power + 1 (where N is a natural number).

15. The image processing device according to Claim 13, the recurrent triangular-area dividing device including a shape type storage device to store the type of the shape of a triangular area, a vertex pixel information storage device to store the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining device to obtain the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating device to update the type of the shape of the triangular area, and a vertex pixel information updating device to update the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

16. An image processing device to recurrently divide each square area of an image which is divided into one or more square areas and to decode the coded data obtained by coding the divided triangular areas, the image processing device comprising:

a coded data input device to input coded data;

a coded data analysis device to analyze the input coded data;

a recurrent triangular-area combining device to recurrently combine triangular areas on the basis of the analyzed coded data;

a square-area combining device to combine a square area on the basis of the combined triangular areas; and

an image data output device to output image data from the combined square area.

17. The image processing device according to Claim 16, the number of pixels contained in one side of the square area generated by the square-area combining device being 2 raised to the N-th power + 1 (where N is a natural number).

18. The image processing device according to Claim 16, the recurrent triangular-area combining device including a shape type storage device to store the type of the shape of a triangular area, a vertex pixel information storage device to store the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining device to obtain the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating device to update the type of the shape of the triangular area, and a vertex pixel information updating device to update the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

19. An image processing device to transform an image to be processed into one square area, to divide the square area into triangular areas, and to code the divided triangular areas, the image processing device comprising:

an image input device to input and store an image;

an image area square-forming device to transform the input image into one square area;

a recurrent triangular-area dividing device to recurrently divide the square-formed area into triangular areas;

a coded data generation device to code the divided triangular areas; and

a coded data output device to output the generated coded data.

20. The image processing device according to Claim 19, the number of pixels contained in one side of the square area generated by the image area square-forming device being 2 raised to the N-th power + 1 (where N is a natural number).

21. The image processing device according to Claim 19, the recurrent triangular-area dividing device including a shape type storage device to store the type of the shape of a triangular area, a vertex pixel information storage device to store the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining device to obtain the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating device to update the type of the shape of the triangular area, and a vertex pixel information updating device to update the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

22. An image processing device to recurrently divide an image which is transformed into one square area into triangular areas and to decode the coded data obtained by coding the divided triangular areas, the image processing device comprising:

a coded data input device to input coded data;

a coded data analysis device to analyze the input coded data;

a recurrent triangular-area combining device to recurrently combine triangular areas on the basis of the analyzed coded data;

a square-area combining device to combine a square area on the basis of the combined triangular areas; and

an image data output device to transfer the combined square area into the original image data area.

23. The image processing device according to Claim 22, the number of pixels contained in one side of the square area generated by the square-area combining device being 2 raised to the N-th power + 1 (where N is a natural number).

24. The image processing device according to Claim 22, the recurrent triangular-area combining device including a shape type storage device to store the type of the shape of a triangular area, a vertex pixel information storage device to store the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining device to obtain the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating device to update the type of the shape of the triangular area, and a vertex pixel information updating device to update the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

25. An image processing program to allow a computer to perform image processing to divide an image to be processed into one or more square areas, to divide each square area into triangular areas, and to code the divided triangular area, the image processing program comprising:

an image input program for inputting the image to be processed and storing the image;

a square-area dividing program for dividing the input image into one or more square areas;

a recurrent triangular-area dividing program for recurrently dividing each divided square area into triangular areas;

a coded data generation program for coding the divided triangular areas; and

a coded data output program for outputting the generated coded data.

26. The image processing program according to Claim 25, the number of pixels contained in one side of the square area generated in the square-area dividing program being 2 raised to the N-th power + 1 (where N is a natural number).

27. The image processing program according to Claim 25, the recurrent triangular-area dividing program including a shape type storing program for storing the type of the shape of a triangular area, a vertex pixel information storing program for storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining program for obtaining the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating program for updating the type of the shape of the triangular area, and a vertex pixel information updating program for updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

28. An image processing program to allow a computer to perform image processing to recurrently divide each square area of an image which is divided into one or more square areas into triangular areas and to decode the coded data obtained by coding the divided triangular areas, the image processing program comprising:

a coded data input program for inputting the coded image data;

a coded data analysis program for analyzing the input coded data;

a recurrent triangular-area combining program for recurrently combining triangular areas on the basis of the analyzed coded data;

a square-area combining program for combining a square area on the basis of the combined triangular areas; and

an image data output program for reconstructing the image data from the combined square area and outputting the image data.

29. The image processing program according to Claim 28, the number of pixels contained in one side of the square area generated in the square-area combining program being 2 raised to the N-th power + 1 (where N is a natural number).

30. The image processing program according to Claim 28, the recurrent triangular-area combining program including a shape type storing program for storing the type of the shape of a triangular area, a vertex pixel information storing program for storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining program for obtaining the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating program for updating the type of the shape of the triangular area, and a vertex pixel information updating program for

updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

31. An image processing program to allow a computer to perform image processing to transform an image to be processed into one square area, to divide the square area into triangular areas, and to code the divided triangular areas, the image processing program comprising:

an image input program for inputting and storing an image;

an image area square-forming program for transforming the input image into one square area;

a recurrent triangular-area dividing program for recurrently dividing the square-formed area into triangular areas;

a coded data generation program for coding the divided triangular areas; and

a coded data output program for outputting the generated coded data.

32. The image processing program according to Claim 31, the number of pixels contained in one side of the square area generated in the image area square-forming program being 2 raised to the N-th power + 1 (where N is a natural number).

33. The image processing program according to Claim 31, the recurrent triangular-area dividing program including a shape type storing program for storing the type of the shape of a triangular area, a vertex pixel information storing program for storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining program for obtaining the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating program for updating the type of the shape of the triangular area, and a vertex pixel information updating program for updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.

34. An image processing program to allow a computer to perform image processing to recurrently divide an image which is transformed into one square area into triangular areas and to decode the coded data obtained by coding the divided triangular areas, the image processing program comprising:

a coded data input program for inputting coded data;

a coded data analysis program for analyzing the input coded data;

a recurrent triangular-area combining program for recurrently combining triangular areas on the basis of the analyzed coded data;

a square-area combining program for combining a square area on the basis of the combined triangular areas; and

an image data output program for transforming the combined square area into the original image data area.

35. The image processing program according to Claim 34, the number of pixels contained in one side of the square area generated in the square-area combining program being 2 raised to the N-th power + 1 (where N is a natural number).

36. The image processing program according to Claim 34, the recurrent triangular-area combining program including a shape type storing program for storing the type of the shape of a triangular area, a vertex pixel information storing program for storing the pixel information of the vertexes and the hypotenuse midpoint of the triangular area, a hypotenuse midpoint pixel information obtaining program for obtaining the pixel information of the hypotenuse midpoint of the triangular area, a shape type updating program for updating the type of the shape of the triangular area, and a vertex pixel information updating program for updating the pixel information of the vertexes and the hypotenuse midpoint of the triangular area.